IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant:		)
	BI ET AL.	)
		) Examiner P. Desir
Appl. No.	10/749,021	)
		) Art Unit 2681
Confirm. No.	8438	)
		) Atty. Docket No. CS23442RL
Filed:	30 December 2003	)
Title:	"Broadcast/Multicast Services In Wireless Communications Networks"	

APPEAL BRIEF UNDER 37 C.F.R. § 43.37(c)

Assistant Commissioner for Patents
Alexandria, Virginia 22313

Sir:

Real Party In Interest

The real party in interest is Motorola Inc., by virtue of an assignment duly executed by the named inventor(s) and recorded in the Official record.

Related Appeals & Interferences

There are no related appeals or interferences.

Status of Claims

Claims 20-23, 25 and 27-37 are pending. Claims 1-19, 24 and 26 are canceled.

Claims 20-23, 25 and 27-37 stand finally rejected in an Office Action mailed on 10 December 2008.

Claims 20-23, 25 and 27-37 are the subject of the instant appeal. The appealed claims are reproduced in the Claims Appendix.

Status of Amendments

Applicants have concurrently filed a response under 37 CFR 1.116 amending the Detailed Description grammatically and idiomatically.

A amendment was proposed for Claim 25 to make it consistent with previously amended Claim 20. No new issues are raised by the porposed amendment. Applicants' amendment under 37 CFR 1.116 has not yet been entered.

Summary of Claimed Subject Matter

Claim 20 is drawn to a method in wireless communications device, including receiving a message identifying a channel on which content will be transmitted (paragraphs [0024 & 0026]), receiving encrypted first layer content information on a first channel, and receiving encrypted second layer content information on a second channel (paragraphs [0012, 0014-16, 0022 & 0026]), wherein at least one of the first and second channels is identified in the

message. The first layer content information is decrypted with a first key and the second layer content information is decrypted with a second key that is different than the first key (paragraphs [0022, 0026, 0028 & 0041]).

Claim 27 is drawn to a method in wireless communications network infrastructure entity, including transmitting first layer broadcast/multicast service content information on a first channel and transmitting second layer broadcast/multicast service content information on a second channel, wherein the first and second channels are downlink channels, at least one of the first and second channels is a shared broadcast channel (paragraph [0016]), and the first layer broadcast/multicast service content information is related to the second layer broadcast/multicast service content information (paragraphs [0012, 0022 & 0026]). The first and second layer broadcast/multicast service content information is encrypted using different encryption keys before transmitting (paragraphs [0022, 0026, 0028 & 0041]).

Claim 36 is drawn to a method in broadcast/multicast subscriber device, including receiving first layer content information on a first channel and receiving second layer content information on a second channel (paragraphs [0012, 0022 & 0026]), wherein at least one of the first and second channels a shared broadcast channel (paragraph [0016]), and decrypting the first layer content information with a first key and decrypting the second layer content information with a second key that is different than the first key (paragraphs [0022, 0026, 0028 & 0041]).

Grounds of Rejection for Review on Appeal

Whether Claims 20-23 and 25 are patentable over U.S. Publication No. 2003/0200499 (Khayrallah) in view of U.S. Patent No. 6,996,722 (Fairman) under 35 USC 103(a).

Whether Claims 27-30, 32 and 34-37 are patentable over Khayrallah in view of U.S. Publication No. 2004/0081125 (Ranta-Aho) and Fairman under 35 USC 103(a).

Whether Claims 31 and 33 are patentable over Khayrallah in view of Ranta-Aho, Fairman and U.S. Publication No. 2002/0141391 (Hsu) under 35 USC 103(a).

Arguments re: Khayrallah & Fairman

Rejection Summary

Claims 20-23 and 25 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Publication No. 2003/0200499 (Khayrallah) in view of U.S. Patent No. 6,996,722 (Fairman).

Discussion of Claim 20

Regarding Claim 20, Khayrallah and Fairman fail to suggest a

... method in wireless communications device, the method comprising:

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> receiving a message identifying a channel on which content will be transmitted;
>
> receiving first layer content information on a first channel;
>
> receiving second layer content information on a second channel, at least one of the first and second channels identified in the message,
>
> the first and second layer content information is encrypted,
>
> decrypting the first layer content information with a first key,
>
> decrypting the second layer content information with a second key that is different than the first key.

The Examiner's assertion that the bit streams of Khayrallah are encrypted is erroneous. The bit streams in Khayrallah are error correction coded, not encrypted. Encryption is a process of transforming information so that it is undecipherable without a decryption key. Error correction coding is used to maintain the integrity of data transmitted over a noisy channel by transmitting redundant information. Khayrallah does not disclose encryption. At paragraph [0022], referenced by the Examiner, Khayrallah describes how forward error correction (FEC) enables a receiver to reconstruct information with less than all of the originally encoded symbols.

At paragraph [0019], Khayrallah discusses assigning a traffic channel to a mobile terminal on a call setup channel. At paragraph [0027], Khayrallah discusses a base station (BS) that multicasts, in parallel, separately encodes portions of a temporal bit stream (30) on different channels (61, 62 & 63) to reduce perceived delay at the mobile terminal. At paragraphs [0028 & 0029], Khayrallah discusses error correction (FEC) coding data segments (K_1, K_2, K_3) transmitted on the different channels. At paragraph [0022], Khayrallah discusses another embodiment where the broadcast channels carry additional redundancy. At paragraph [0022], Khayrallah indicates that the FEC enables a

receiver to reconstruct information with less than all of the originally encoded symbols.

The Examiner concedes that Khayrallah does not disclose the use of separate keys to decrypt the different channels. As noted above, however, Khayrallah also fails to disclose encryption. Fairman discloses sending encrypted application data units (ADUs) (e.g., minutes of video content) from a server to a mobile station (MS) that subscribes to a specified quality of service (QoS). At col. 2, lines 14-19, Fairman discloses that the MS keeps a record of decrypted ADUs wherein the record is used to resolve disputes over QoS received by the MS. At col. 2, lines 53-58, Fairman also discloses encrypting different ADUs with different encryption keys, which are generated in a way that is not possible for the customer to predict a key value from a previous key. There is no reason to encrypt the separate data streams in Khayrallah with different keys. Khayrallah is concerned with improving integrity for mobile station near the cell edge (using FEC) and with reducing data delay perceived by the MS. Moreover, neither Khayrallah nor Fairman disclose receiving "first layer content" and "second layer content". The bit stream portions (K_1, K_2, K_3) of Khayrallah correspond to adjacent portions of a temporal bit stream. The same is true of the ADUs disclosed by Fairman. Claim 20 is thus distinguished over the art.

Discussion of Claim 21

Regarding Claim 21, Khayrallah and Fairman fail to suggest in combination with Claim 20 "… combining the first and second layer content at the wireless subscriber device." Khayrallah and Fairman combine adjacent

portions of a temporal bit stream, not different content "layers". Claim 21 is thus further patentably distinguished over Khayrallah and Fairman.

Arguments re: Khayrallah, Ranta-Aho & Fairman

Rejection Summary

Claims 27-30, 32 and 34-37 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Publication No. 2003/0200499 (Khayrallah) in view of U.S. Publication No. 2004/0081125 (Ranta-Aho) and U.S. Patent No. 6,996,722 (Fairman).

Discussion of Claim 27

Regarding Claim 27, the prior art fails to suggest a

> ... method in wireless communications network infrastructure entity, the method comprising:
> transmitting first layer broadcast/multicast service content information on a first channel;
> transmitting second layer broadcast/multicast service content information on a second channel,
> the first and second channels are downlink channels, at least one of the first and second channels is a shared broadcast channel,
> the first layer broadcast/multicast service content information related to the second layer broadcast/multicast service content information;
> encrypting the first and second layer broadcast/multicast service content information using different encryption keys before transmitting.

The Examiner's assertion that the bit streams of Khayrallah are encrypted is erroneous. The bit streams in Khayrallah are error correction coded, not encrypted. Encryption is a process of transforming information so that it is undecipherable without a decryption key. Error correction coding is used to maintain the integrity of data transmitted over a noisy channel by transmitting redundant information. Khayrallah does not disclose encryption. At paragraph [0022], referenced by the Examiner, Khayrallah describes how forward error correction (FEC) enables a receiver to reconstruct information with less than all of the originally encoded symbols.

At paragraph [0019], Khayrallah discusses assigning a traffic channel to a mobile terminal on a call setup channel. At paragraph [0027], Khayrallah discusses a base station (BS) that multicasts, in parallel, separately encodes portions of a temporal bit stream (30) on different channels (61, 62 & 63) to reduce perceived delay at the mobile terminal. At paragraphs [0028 & 0029], Khayrallah discusses error correction (FEC) coding data segments (K_1, K_2, K_3) transmitted on the different channels. At paragraph [0022], Khayrallah discusses another embodiment where the broadcast channels carry additional redundancy. At paragraph [0022], Khayrallah indicates that the FEC enables a receiver to reconstruct information with less than all of the originally encoded symbols.

Fairman discloses sending encrypted application data units (ADUs) (e.g., minutes of video content) from a server to a mobile station (MS) that subscribes to a specified quality of service (QoS). Ranta-Aho discloses providing soft handover for multicast content. That Ranta-Aho discloses the use of a shared channel for multicast content does not remedy the deficiencies of Khayrallah. At col. 2, lines 14-19, Fairman discloses that the MS keeps a

record of decrypted ADUs to resolve disputes over QoS received by the MS. At col. 2, lines 53-58, Fairman also discloses encrypting different ADUs with different encryption keys, which are generated in a way that is not possible for the customer to predict a key value from a previous key. There is no reason to encrypt the separate data streams in Khayrallah with different keys. Khayrallah is concerned with improving integrity for mobile station near the cell edge (using FEC) and with reducing data delay perceived by the MS. Moreover, Khayrallah, Ranta-Aho and Fairman fail to disclose receiving "first layer broadcast/multicast service content" and "second layer broadcast/multicast service content". The bit stream portions (K_1, K_2, K_3) of Khayrallah correspond to adjacent portions of a temporal bit stream. The same is true of the ADUs disclosed by Fairman. Claim 27 is thus patentably distinguished over the art.

Discussion of Claim 29

Regarding Claim 29, Khayrallah, Ranta-Aho and Fairman fail to suggest in combination with Claim 27 "… transmitting the first layer broadcast/multicast service content information and transmitting the second layer broadcast/multicast service content information substantially simultaneously." Khayrallah, Ranta-Aho and Fairman combine adjacent portions of a temporal bit streams not "first layer" content and "second layer" content". Claim 29 is thus further patentably distinguished over Khayrallah, Ranta-Aho and Fairman.

Discussion of Claim 30

Regarding Claim 30, Khayrallah, Ranta-Aho and Fairman fail to suggest in combination with Claim 27 "... transmitting the first layer broadcast/multicast service content information and transmitting the second layer broadcast/multicast service content information with sufficient temporal proximity to enable substantially synchronized integration of the first and second layer broadcast/multicast service content information by a recipient." Khayrallah, Ranta-Aho and Fairman combine adjacent portions of a temporal bit stream, not "first layer" content and "second layer" content. Claim 30 is thus further patentably distinguished over Khayrallah, Ranta-Aho and Fairman.

Discussion of Claim 36

Regarding Claim 36, the prior art fails to suggest a

> ... method in broadcast/multicast subscriber device, the method comprising:
> receiving first layer content information on a first channel;
> receiving second layer content information on a second channel,
> at least one of the first and second channels a shared broadcast channel,
> decrypting the first layer content information with a first key and decrypting the second layer content information with a second key that is different than the first key.

The Examiner's suggestion that Khayrallah discloses encryption is erroneous. Error correction coding is not encryption. Error correction coding is used to maintain the integrity of data transmitted over a noisy channel by

transmitting redundant information. Encryption is a process of transforming information so that it is undecipherable without a decryption key. The bit streams in Khayrallah are error correction coded, not encrypted.

At paragraph [0019], Khayrallah discusses assigning a traffic channel to a mobile terminal on a call setup channel. At paragraph [0027], Khayrallah discusses a base station (BS) that multicasts, in parallel, separately encodes portions of a temporal bit stream (30) on different channels (61, 62 & 63) to reduce perceived delay at the mobile terminal. At paragraphs [0028 & 0029], Khayrallah discusses error correction (FEC) coding data segments (K_1, K_2, K_3) transmitted on the different channels. At paragraph [0022], Khayrallah discusses another embodiment where the broadcast channels carry additional redundancy. At paragraph [0022], Khayrallah indicates that the FEC enables a receiver to reconstruct information with less than all of the originally encoded symbols.

The Examiner concedes that Khayrallah does not disclose a shared broadcast channel and decrypting different channels received at the mobile terminal. That Ranta-Aho discloses the use of a shared channel for multicast content does not remedy the deficiencies of Khayrallah. Moreover, while Fairman discloses the use of different keys for decrypting different application data units (ADUs), there is no suggestion for one skilled in the art to decrypt the parallel bit streams transmitted by Khayrallah since Khayrallah does not encrypt the bit streams before transmission. The object of Fairman is to maintain a record of keys generated in the subscriber terminal to track the received ADUs, which are indicative of the quality of service.

Fairman discloses sending encrypted application data units (ADUs) (e.g., minutes of video content) from a server to a mobile station (MS)

that subscribes to a specified quality of service (QoS). Ranta-Aho discloses providing soft handover for multicast content. That Ranta-Aho discloses the use of a shared channel for multicast content does not remedy the deficiencies of Khayrallah. At col. 2, lines 14-19, Fairman discloses that the MS keeps a record of decrypted ADUs to resolve disputes over QoS received by the MS. At col. 2, lines 53-58, Fairman also discloses encrypting different ADUs with different encryption keys, which are generated in a way that is not possible for the customer to predict a key value from a previous key. There is no reason to encrypt the separate data streams in Khayrallah with different keys. Khayrallah is concerned with improving integrity for mobile station near the cell edge (using FEC) and with reducing data delay perceived by the MS. Moreover, Khayrallah, Ranta-Aho and Fairman fail to disclose receiving "first layer broadcast/multicast service content" and "second layer broadcast/multicast service content". The bit stream portions (K_1, K_2, K_3) of Khayrallah correspond to adjacent portions of a temporal bit stream. The same is true of the ADUs disclosed by Fairman. Claim 36 is thus patentably distinguished over the art.

Discussion of Claim 37

Regarding Claim 37, Khayrallah, Ranta-Aho and Fairman fail to suggest in combination with Claim 36 "... integrating the first and second layer content information at the wireless communications device." Khayrallah, Ranta-Aho and Fairman combine adjacent portions of a temporal bit streams, not "first and second layer content". Claim 37 is thus further patentably distinguished over Khayrallah, Ranta-Aho and Fairman.

Arguments re: Khayrallah, Ranta-Aho, Fairman & Hsu

Rejection Summary

Claims 31 and 33 stand rejected under 35 USC 103(a) for being unpatentable over Khayrallah in view of Ranta-Aho, Fairman and U.S. Publication No. 2002/0141391 (Hsu). The Examiner relies upon Hsu for teaching the use of a dedicated broadcast channel as disclosed in paragraph [0070] of Hsu.

Discussion of Claim 31

Regarding Claim 31, the prior art fails to disclose in combination with Claim 27 "…transmitting the second layer broadcast/multicast service content information on the second channel by transmitting the second layer broadcast/multicast service content information on a dedicated channel." According to Claim 31, at least one of the first and second channels "is a shared broadcast channel" and the other channel is a "dedicated channel". The Applicants submit that a dedicated channel is not the same as a dedicated broadcast channel. A dedicated channel is a point-to-point channel, whereas a broadcast channel is a point-to-multipoint channel. Claim 31 is thus further patentably distinguished over the art.

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Discussion of Claim 33

Regarding Claim 33, the prior art fails to disclose in combination with Claim 27 "… transmitting reliability information on a third channel, the reliability information for decoding at least one of the first and second layer broadcast/multicast service content information." Contrary to the Examiner's assertion, encryption information is not the same as reliability information. Claim 33 is thus further patentably distinguished over the art.

Prayer For Relief

Kindly reverse and vacate the rejections of claims, in view of the discussion above, with instructions for the Examiner to allow said Claims to issue in a United States Patent without further delay and provide other relief warranted.

Respectfully submitted,

/ ROLAND K. BOWLER II /

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CLAIMS APPENDIX

Claims 1-19 (Canceled).

20. (Previously Presented) A method in wireless communications device, the method comprising:

receiving a message identifying a channel on which content will be transmitted;

receiving first layer content information on a first channel;

receiving second layer content information on a second channel,

at least one of the first and second channels identified in the message,

the first and second layer content information is encrypted,

decrypting the first layer content information with a first key,

decrypting the second layer content information with a second key that is different than the first key.

21. (Original) The method of Claim 20, combining the first and second layer content at the wireless subscriber device.

22. (Original) The method of Claim 20,

the wireless communications device is a broadcast/multicast subscriber device,

receiving first layer content information includes receiving first layer broadcast/multicast content information;

receiving second layer content information includes receiving second layer broadcast/multicast content information.

23. (Original) The method of Claim 22, receiving first layer content information on a first channel includes receiving the first layer content information on a first broadcast channel.

Claim 24 (Canceled).

25. (Previously Presented) The method of Claim 20,

receiving a decryption key for the decrypted first or second layer content information,

decrypting the first or second layer content information with the decryption key.

Claim 26 (Canceled).

27. (Previously Presented) A method in wireless communications network infrastructure entity, the method comprising:

transmitting first layer broadcast/multicast service content information on a first channel;

transmitting second layer broadcast/multicast service content information on a second channel,

the first and second channels are downlink channels, at least one of the first and second channels is a shared broadcast channel,

the first layer broadcast/multicast service content information related to the second layer broadcast/multicast service content information;

encrypting the first and second layer broadcast/multicast service content information using different encryption keys before transmitting.

28. (Previously Presented) The method of Claim 27, transmitting a message identifying at least one of the first and second channels before transmitting the first and second layer broadcast/multicast service content information.

29. (Previously Presented) The method of Claim 27, transmitting the first layer broadcast/multicast service content information and transmitting the second layer broadcast/multicast service content information substantially simultaneously.

30. (Previously Presented) The method of Claim 27, transmitting the first layer broadcast/multicast service content information and transmitting the second layer broadcast/multicast service content information with sufficient temporal proximity to enable substantially synchronized integration of the first and second layer broadcast/multicast service content information by a recipient.

31. (Previously Presented) The method of Claim 27, transmitting the second layer broadcast/multicast service content information on the second channel by transmitting the second layer broadcast/multicast service content information on a dedicated channel.

32. (Previously Presented) The method of Claim 30, transmitting third layer broadcast/multicast service content information on a second shared channel, the third layer broadcast/multicast service content information related to the first and second layer content information.

33. (Previously Presented) The method of Claim 27, transmitting reliability information on a third channel, the reliability information for decoding at least one of the first and second layer broadcast/multicast service content information.

34. (Previously Presented) The method of Claim 27,

the first layer broadcast/multicast service content information is baseline broadcast/multicast service information transmitted on a shared broadcast channel;

the second layer broadcast/multicast service content information is baseline broadcast/multicast service enhancement information transmitted on one of a second shared broadcast channel or a dedicated channel.

35. (Previously Presented) The method of Claim 27, at least one of the first and second layers capable of being decoded and used without the other of the first and second layers.

36. (Previously Presented) A method in broadcast/multicast subscriber device, the method comprising:

receiving first layer content information on a first channel;

receiving second layer content information on a second channel,

at least one of the first and second channels a shared broadcast channel,

decrypting the first layer content information with a first key and decrypting the second layer content information with a second key that is different than the first key.

37. (Previously Presented) The method of Claim 36, integrating the first and second layer content information at the wireless communications device.

EVIDENCE APPENDIX

(None)

RELATED PROCEEDINGS APPENDIX

(None)